#21

AF2854

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re patent application of:	) Date: November 12, 2003
James A. Salomon, et al.	) Attorney Docket No.: F-153
Serial No.: 09/751,489	) Customer No.: 00919
Filed: December 28, 2000	) Group Art Unit: 2854
Confirmation No.: 3235	) Examiner: Daniel James Colilla

Title: **METHOD AND SYSTEM FOR TRANSPORTING MAILPIECES IN A PRINTING STATION**

***TRANSMITTAL OF CORRECTED APPEAL BRIEF (PATENT APPLICATION 37 CFR 1.192)**

Mail Stop Appeal Brief-Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Transmitted herewith in **triplicate** is the **APPEAL BRIEF** in the above-identified patent application with respect to the Notice of Appeal filed on August 14, 2003, and the October 29, 2003, Notification of Non-Compliance with 37 CFR §1.192(c).

The Commissioner is hereby authorized to charge any additional fees which may be required to Deposit Account No. **16-1885**.

A duplicate copy of this transmittal is enclosed for use in charging the Deposit Account.

Respectfully submitted,

Ronald Reichman
Reg. No. 26,796
Attorney of Record
Telephone (203) 924-3854

PITNEY BOWES INC.
Intellectual Property and
Technology Law Department
35 Waterview Drive
P.O. Box 3000
Shelton, CT 06484-8000

CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to:

Mail Stop Appeal Brief-Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

on November 12, 2003
Date of Deposit

Esther A. Lapin
Name of Rep.

Signature

November 12, 2003
Date

#21/ Corrected Appeal Brief

11-28-03 L. Sprunell

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re patent application of:	) Date: November 12, 2003
James A. Salomon, et al.	) Attorney Docket No.: F-153
Serial No.: 09/751,489	) Customer No.: 00919
Filed: December 28, 2000	) Group Art Unit: 2854
Confirmation No. 3235	) Examiner: Daniel James Colilla

Title: **METHOD AND SYSTEM FOR TRANSPORTING MAILPIECES IN A PRINTING STATION**

CORRECTED APPELLANTS' BRIEF

Mail Stop Appeal Brief-Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

This brief is in furtherance of the Notice of Appeal filed in this case on August 14, 2003, and October 29, 2003, Notification of Non-Compliance with 37 CFR §1,192(c).

This Corrected Appellants' Brief is transmitted in triplicate.

[fee paid - paper #19]

TABLE OF CONTENTS

This brief contains these items under the following headings and in the order set forth below:

I REAL PARTY IN INTEREST

Pitney Bowes Inc. is the real party in interest.

II RELATED APPEALS AND INTERFERENCES

There are no related Appeals and Interferences.

III STATUS OF CLAIMS

a) Claims 1 - 20 are in the application.

b) Claims 1 - 20 are rejected.

c) Claims 1 - 20 are on appeal.

IV STATUS OF AMENDMENTS

An amendment subsequent to the April 14, 2003, Final Rejection was filed on June 24, 2003. This amendment was not entered.

V SUMMARY OF THE INVENTION

A. Background

The prior art did not have a system and method that had a lower looping belt having a mailpiece intake section that extends beyond the width of the upper belt adjacent the printing area running from the upstream end towards the downstream end, wherein the mailpiece intake section and the straight section form a wedge-shaped gap resulting in a soft ingest nip so that the tension of the lower belt is controlled by the elasticity of the lower belt wrapped around fixed pulleys to provide a normal force between mailpieces having different

thicknesses and the upper belt for providing a friction force to move the mailpiece into the printing area for printing.

Mailing machines utilizing an inkjet printer to print an indicia on a mailpiece are well known. Typically, an inkjet printer uses a print head consisting of one or more rows of nozzles to apply ink droplets over a printed area on the mailpiece surface. Because the printing must be completed over a period of time while the mailpiece moves past the nozzles, the printed image on the mailpiece could be distorted if the mailpiece is not moved in accordance with a specified speed or along a specified direction. Furthermore, the distance between the mailpiece surface to be printed and the nozzles must be appropriately spaced so as to avoid contact by the mailpiece surface with the nozzles.

For imaging, printers typically use rollers to move a substrate into the printing area while also limiting the gap to maintain image quality. These printers do not provide a mechanism to maintain the correct distance between the substrate surface and the print head for a wide range of substrate thickness. While those printers can be used to make print on regular paper stocks or postcards, they are not designed for printing mailpieces the thickness of which can vary considerably. Furthermore, in a printer that uses belt and rollers to ingest the mailpiece, the hard nip formed by the driven belt and rollers could cause the mailpiece to slow down relative to the transport belt when the mailpiece hits the hard nip. Moreover, if the mailpiece is guided by one or more nips formed by the driven belt and rollers, the motion of the mailpiece could be skewed such that the mailpiece may not travel along a specified direction through the printing area of

the printer. The skewed motion of the mailpiece may distort a printed image printed by an inkjet printer or the like.

It is advantageous and desirable to provide a transport system for mailpieces in a printer for digital printing, wherein the aforementioned disadvantages can be eliminated.

B. Appellants claim a system and method that has a lower looping belt having a mailpiece intake section that extends beyond the width of the upper belt adjacent the printing area running from the upstream end towards the downstream end, wherein the mailpiece intake section and the straight section form a wedge-shaped gap resulting in a soft ingest nip so that the tension of the lower belt is controlled by the elasticity of the lower belt wrapped around fixed pulleys to provide a normal force between mailpieces having different thicknesses and the upper belt for providing a friction force to move the mailpiece into the printing area for printing.

The present invention is a double-belt transport system having an upstream end and a downstream end for moving a mailpiece from the upstream end into a printing area of a printer, wherein the mailpiece has a lower surface and an opposing upper surface to be printed by a print head located in the printing area. The transport system comprises:

an upper belt looping around an input pulley and an exit pulley to form a straight section covering the printing area and defining a registration plane of the print head;

a lower belt having an intake section running from the upstream end towards the downstream end, wherein the input pulley and the intake section form an ingest nip for

providing a friction force to move the mailpiece from the upstream end into the printing area for printing.

Preferably, the double-belt transport system further includes a shield plate having a reference surface facing the direction of the inkjet drop trajectory and located substantially in the registration plane in the printing area to allow the upper surface of the mailpiece to press against the reference surface of the shield plate for registration.

Preferably, the double-belt transport system also includes a lifting mechanism located below the lower surface of the mailpiece for urging the mailpiece to register against the shield plate so that the upper surface of the mailpiece is kept in contact with the straight section while the mailpiece moves through the printing area.

Preferably, the double-belt transport system also comprises a deck having an upstream section and a downstream section, wherein the upstream section is located adjacent to the ingest nip for supporting the mailpiece when the mailpiece moves towards the ingest nip.

Preferably, the double-belt transport system further comprises a driving mechanism to drive both the upper looping belt and the lower looping belt in order to reduce shearing on the mailpiece.

Preferably, the double-belt transport system also comprises a velocity measurement mechanism, such as an optical encoder, operatively connected to at least one of the looping belts to ensure that the printing speed of the print head is consistent with the moving speed of the mailpiece in the printing area.

The foregoing is more specifically described in Fig. 2 and pages 5 and 6 of the specification.

As shown in Figure 2, the mailpiece **1** has an upper surface **4** to be printed by the print head **102** and an opposing lower surface **6** supported by the deck **16**. The upper belt **12** loops around idler pulleys **22**, **26**, **28** and a drive pulley **30**. The tension of the upper belt **12** is maintained by a tensioning idler **32**. The lower belt **14** loops around idler pulleys **42**, **44** and a drive pulley **50**. The tension of the lower belt **14** is maintained by a tensioning idler **46**. The upper belt **12** and the lower belt **14** form an ingest nip **40** to move the mailpiece **1** into the printing area **112** for printing. The upper belt **12** has a straight section **24** between the pulleys **26** and **28** running the length of the printing area **112** for holding the mailpiece **1** on both the upper surface **4** and the lower surface **6** in order to minimize skew of the mailpiece **1** as the mailpiece **1** moves through the printing area **112**. The ingest nip **40** is in fact a soft nip, which is formed gradually by the wedge-shaped gap between the upper belt **12** and the lower belt **14** at the upstream end. The ingest nip **40** prevents the mailpiece **1** from slowing down as it would if the ingest nip were a hard nip. The plane joining the tangent of pulley **26** and the tangent of pulley **28** is substantially parallel to the print plane or the registration plane **110** (Figure 3). Both the upper belt **12** and the lower belt **14** are driven by drive pulleys **30** and **50**, respectively, in order to minimize shearing on the mailpiece **1**. The motor **60** and the driving belt **62** that drive the drive pulleys **30** and **50** are illustrated in Figure 3.

When the mailpiece **1** is ingested into the printing area **112** by the ingest nip **40**, it has the tendency to bend downward. For a thin mailpiece, the straight section **24** of the upper belt **12** and the same section of the lower belt **14** can pinch the mailpiece

tightly to keep it from moving away from print head **102** and the registration plane **110**. However, if the mailpiece is thick, puffy or flexible, the straight section **24** of the upper belt **12** and the lower belt **14** may not be able to keep the upper surface **4** of the mailpiece **1** from moving downward and away from the registration plane **110**. Thus, it is preferable to have a lifting mechanism **70** located below the registration plane **110** and underneath the printing area **112**, as shown in Figure 3, to push the mailpiece **1** towards the print head **102**. Furthermore, a shield plate **80** having a lower surface **82** located substantially on the registration plane **110** is used to register the upper surface **4** of the mailpiece **1** precisely with respect to the print head **102**. It is preferred that the lifting mechanism **70** has an opening (not shown) right under the print head **102** so that the print head **102** will not accidentally print on the lifting mechanism **70** when the mailpiece **1** is not present in the printing area **112**. As shown in Figure 3, a tensioning idler **52** can be used to form an input nip **56** with the input pulley **42** of the lower belt **14** in order to reduce skew when the mailpiece **1** is moved to the belts **12, 14** from the upstream end. The tensioning idler **52** may slow down the mailpiece **1** slightly when the mailpiece **1** hits the input nip **56**. However, when the mailpiece **1** is engaged with the upper belt **12** and the lower belt **14**, it moves along with the belts **12**, **14**. Furthermore, in order to ensure that the printing is in synchronism with the mailpiece **1** in that the drop ejection frequency of the print head **102** is matched to the movement of the mailpiece **1**, it is possible to install an encoder **90** to be operatively engaged with the belts **12**, **14** to measure their moving speed.

VI ISSUES PRESENTED FOR REVIEW

A. Whether or not claims 1, 4 - 6 and 8 are patentable under 35 USC §102(b) for being anticipated by Magee (U.S. Patent No. 5,265,867).

B. Whether or not claims 2 and 3 are patentable under 35 USC §103(a) over Magee (U.S. Patent No. 5,265,867) in view of Coudray, et al. (U.S. Patent No. 6,431,778 B1).

C. Whether or not claim 7 is patentable under 35 USC §103(a) over Magee as applied to claims 1, 4-6 and 8 above and further in view of Wataya, et al. (U.S. Patent No. 5,828,387).

D. Whether or not claims 9-16 and 18-20 are patentable under 35 USC §102(e) as being anticipated by Coudray, et al. (U.S. Patent No. 6,431,778 B1).

E. Whether or not claim 17 is patentable under 35 USC §103(a) over Coudray, et al. as applied to claims 9-16 and 18-20 above, and further in view of Wataya, et al.

VII GROUPING OF CLAIMS

A. Claims 1, 4 - 6 and 8 stand or fall together with regards to the rejection under 35 USC §102(b).

B. Claim 2 and 3 stand or fall together with regards to the rejection under 35 USC §103(a).

C. Claim 7 stands or fall with regards to the rejection under 35 USC §103(a).

D. Claims 9-16 and 18-20 stand or fall with regards to the rejection under 35 USC §102(e).

E. Claim 17 stands or fall with regards to the rejection under 35 USC §103(a).

VIII ARGUMENTS

A. Claims 1, 4-6, and 8 have been rejected by the Examiner under 35 USC §102(b) for being anticipated by Magee (U.S. Patent No. 5,265,867).

Magee discloses the following in line 66 of column 2 - line 21 of column 3:

> "A first pair of drive belts **16*a*** and **16*b*** are disposed on the signature supporting plate **12** and extend generally in the direction of travel of said signature in spaced apart relation and a second pair of drive belts **18*a*** and **18*b*** are disposed on the respective ones of the first pair of drive belts **16*a*** and **16*b*** and extend generally in the direction of travel of said signature on the sides opposite the signature supporting plate. The binding line mail table **10** further includes means for driving the drive belts **16*a*, 16*b*** and **18*a*, 18*b*** at the same speed for moving the signature **14** along the signature supporting plate **12** (see, also, FIG. 2.) As shown in FIG. 2, the driving means may include a conventional motor **20** operatively connected to drive pulleys **22** and drive pulleys **24** in a manner that will be known to those skilled in the art.
>
> As shown in FIG. 2, the drive pulleys **22** are operatively associated with the drive belts **16*a*** and **16*b*** whereas the drive pulleys **24** are operatively associated with the drive belts **18*a*** and **18*b***. It will also be appreciated that the respective pairs of drive belts **16*a*, 16*b*** and **18*a*, 18*b*** will also be trained about other pulleys such as **26** in the case of drive belts **16*a***, **16*b*,** and **28** and **30** in the case of drive belts **18*a*** and **18*b***."

Magee does not disclose or anticipate the invention claimed by Appellants in claim 1, namely, a lower looping belt having a mailpiece intake section that extends beyond the width of the upper belt adjacent the printing area running from the upstream end towards the downstream end, wherein the mailpiece intake section and the straight section form a wedge-shaped gap resulting in a soft ingest nip so that the tension of the lower belt is controlled by the elasticity of the lower belt wrapped around fixed pulleys to provide a normal force between mailpieces having different thicknesses and the upper

belt for providing a friction force to move the mailpiece into the printing area for printing. The above invention provides a mechanism to maintain the correct distance between the mailpiece surface and the print head for a wide range of mailpiece thickness. Thus, the print quality of the information printed on the mailpieces will be of high quality and will not be dependent on the thickness of the mailpieces.

B. Claims 2 and 3 have been rejected by the Examiner under 35 U.S.C. §103(a) as being unpatentable over Magee (U.S. Patent No. 5,265,867) in view of Coudray, et al. (U.S. Patent No. 6,431,778B1).

Neither Magee nor Coudray, taken separately or together, discloses or anticipates the invention claimed by Appellants in claim 1 and those claims dependent thereon. Coudray does not disclose or anticipate a lower looping belt having a mailpiece intake section that extends beyond the width of the upper belt adjacent the printing area running from the upstream end towards the downstream end, wherein the mailpiece intake section and the straight section form a wedge-shaped gap resulting in a soft ingest nip so that the tension of the lower belt is controlled by the elasticity of the lower belt wrapped around fixed pulleys to provide a normal force between mailpieces having different thicknesses and the upper belt for providing a friction force to move the mailpiece into the printing area for printing. The mailpiece is held by the upper and lower belts when the mailpiece moves through the printing area, thus preventing skewing and inferior quality printed mailpieces.

Notwithstanding the foregoing, in rejecting a claim under 35 U.S.C. §103, the Examiner is charged with the initial burden for providing a factual basis to support the obviousness conclusion. ***In re Warner,*** 379 F.2d 1011, 154 USPQ 173 (CCPA 1967);

in re Lunsford, 375 F.2d 385, 148 USPQ 721 (CCPA 1966); ***in re Freed***, 425 F.2d 785, 165 USPQ 570 (CCPA 1970). The Examiner is also required to explain how and why one having ordinary skill in the art would have been led to modify an applied reference and/or combine applied references to arrive at the claimed invention. ***In re Ochiai***, 37 USPQ2d 1127 (Fed. Cir. 1995); **in re Deuel**, *51 F.3d 1552, 34 USPQ 1210 (Fed. Cir. 1995);* ***in re Fritch***, 972 F.2d 1260, 23 USPQ 1780 (Fed. Cir. 1992); ***Uniroyal, Inc. v. Rudkin-Wiley Corp.***, 837 F.2d 1044, 5 USPQ2d 1434 (Fed. Cir. 1988). In establishing the requisite motivation, it has been consistently held that both the suggestion and reasonable expectation of success must stem from the prior art itself, as a whole. ***In re Ochiai***, supra; **in re Vaeck**, *947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991);* ***in re Fine***, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988); ***in re Dow Chemical Co.***, 837 F.2d 469, 5 USPQ2d 1529 (Fed. Cir. 1988).

C. Claim 7 has been rejected by the Examiner under 35 U.S.C. §103(a) as being unpatentable under 35 USC §103(a) over Magee as applied to claims 1, 4-6 and 8 above and further in view of Wataya, et al. (U.S. Patent No. 5,828,387).

Wataya discloses the following in lines 9-18 of column 5:

> "In FIG. 1, a speed detector **1** is constructed of, e.g., a pickup roller and rotary encoder. A pulse from the rotary encoder is monitored such that a control unit 2 recognizes the speed status in accordance with the monitored phase. The speed detector **1** may be an optical sensor an example of which is disclosed as a laser Doppler type sensor in Japanese Unexamined Patent Publication (Kokai) No. 61-130887. The speed detector **1** is mounted at the side end portion of a feed belt **54** so as not to obstruct the feeding of a cut sheet **51**."

The Examiner stated in paragraph numbered 6 of page 5 of the Final Rejection that: ".....It would have been obvious to combine the teaching of Wataya, et al. with the transport system disclosed by Magee for the advantage of synchronizing the registration of different colors that are being printed.

In addition to the arguments made in above Section B, please consider the following.

In claim 7, Appellants claim a velocity measurement mechanism to match the printing speed of the print head to the moving speed of the mailpiece in the printing area. The foregoing is done to match the moving speed of the belts so that the printing speed of the printer matches the moving speed of the mailpiece in the print area so that registered information will be printed on the mailpiece.

D. Claims 9 – 16 and 18 - 20 have been rejected by the Examiner under 35 U.S.C§102(e) as being anticipated by Coudray, et al. (U.S. Patent No. 6,431,778B1).

Coudray discloses the following in lines 36-52 of column 4:

> "In order to allow the suspension movements of the rollers **20** and **22**, the journal of each of these rollers is mounted at one respective end of an arm **25** the center of which is mounted so as to oscillate on the journal of the roller **21**, the path followed by the journal of the rollers **20** and **22** upon a suspension movement thus being a circular are centered on the journal of the roller **21**, the movements of the rollers **20** and **22** being in opposition, that is to say that when the roller **22** is lowered, the roller **20** is raised and vice versa.
>
> A spring **26** is provided to force the arm **25** in the direction in which the roller **22** is raised, that is to say in the direction where it comes up against the stretch of the upper belt **9** located in the corridor **5**.
>
> It will be observed that the roller **16** serves as a counter roller for the roller **22**, that is to say that it allows it to take up the forces exerted by the spring **26**."

Coudray does not disclose or anticipate the invention claimed by Appellants in claim 9 and those claims dependent thereon. Coudray does not disclose or anticipate a lower looping belt having a mailpiece intake section running from the upstream end towards the downstream end, wherein the mailpiece intake section of the lower looping belt and the straight section of the upper looping belt form a wedge-shaped gap resulting in a soft ingest nip so that the tension of the lower belt provides a normal force between the mailpiece and the upper belt to provide a friction force to move the mailpiece into the gap towards the printing area so that the mailpiece surface is substantially located on the registration plane. The above invention provides a mechanism to maintain the correct distance between the mailpiece surface and the print head for a wide range of mailpiece thickness. Thus, the print quality of the information printed on the mailpieces will be of high quality and will not be dependent on the thickness of the mailpieces. Coudray does not disclose or anticipate the invention claimed by Appellants in claim 11. Coudray does not disclose or anticipate a lower looping belt having a mailpiece intake section running from the upstream end towards the downstream end, wherein the mailpiece intake section and the straight section form a wedge-shaped gap resulting in a soft ingest nip so that the tension of the lower belt provides a normal force between the mailpiece and the upper belt for providing a friction force to move the mailpiece into the printing area for printing. The foregoing is done to improve the registration of mailpieces and to produce better printing.

E. Claim 17 has been rejected by the Examiner under 35 U.S.C. §103(a) as being unpatentable over Coudray, et al., as applied to claims 9-16 and 18-20 above, and further in view of Wataya, et al.

Wataya discloses the following in lines 9-18 of column 5:

> "In FIG. 1, a speed detector **1** is constructed of, e.g., a pickup roller and rotary encoder. A pulse from the rotary encoder is monitored such that a control unit 2 recognizes the speed status in

accordance with the monitored phase. The speed detector **1** may be an optical sensor an example of which is disclosed as a laser Doppler type sensor in Japanese Unexamined Patent Publication (Kokai) No. 61-130887. The speed detector **1** is mounted at the side end portion of a feed belt **54** so as not to obstruct the feeding of a cut sheet **51**."

The Examiner stated in the paragraph numbered 7 continuing on page 8 of the Final Rejection that: "...It would have been obvious to combine the teaching of Wataya, et al. with the transport system disclosed by Magee for the advantage of synchronizing the registration of different colors that are being printed.

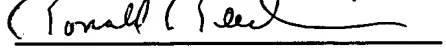
Magee has been discussed above.

Coudray, et al. has been discussed above. In claim 17, Appellants claim a velocity measurement mechanism that matches the printing speed of the print head to the moving speed of the mailpiece in the printing area. The foregoing is done to match the moving speed of the belts so that the printing speed of the printer matches the moving speed of the mailpiece in the print area so that registered information will be printed on the mailpiece.

IX PRAYER FOR RELIEF

Appellants respectfully submit that appealed claims 1 - 20 in this application are patentable. It is requested that the Board of Appeal overrule the Examiner and direct allowance of the rejected claims.

Respectfully submitted,



Ronald Reichman
Reg. No. 26,796
Attorney of Record
Telephone (203) 924-3854

PITNEY BOWES INC.
Intellectual Property and
Technology Law Department
35 Waterview Drive
P.O. Box 3000
Shelton, CT 06484-8000

X APPENDIX OF CLAIMS INVOLVED IN THE APPEAL

What is claimed is:

1. A double belt transport system having an upstream end and a downstream end for moving a mailpiece from the upstream end into a printing area of a printer, wherein the mailpiece has a lower surface and an opposing upper surface to be printed by a print head located in the printing area, said transport system comprising:

an upper looping belt having a straight section with a predetermined width covering the printing area, wherein the straight section defines a registration plane regarding the print head; and

a lower looping belt having a mailpiece intake section that extends beyond the width of the upper belt adjacent the printing area running from the upstream end towards the downstream end, wherein the mailpiece intake section and the straight section form a wedge-shaped gap resulting in a soft ingest nip so that the tension of the lower belt is controlled by the elasticity of the lower belt wrapped around fixed pulleys to provide a normal force between mailpieces having different thicknesses and the upper belt for providing a friction force to move the mailpiece into the printing area for printing.

2. The double belt transport system of claim 1, further comprising a lifting mechanism located below the lower surface of the mailpiece for urging the mailpiece to move towards the straight section of the upper looping belt so that the upper surface of

the mailpiece is located substantially in the registration plane when the mailpiece is moving into the printing area.

3. The double belt transport system of claim 2, further comprising a shield plate having a reference surface facing the lifting mechanism and located substantially in the registration plane in the printing area so as to allow the upper surface of the mailpiece to press against the reference surface for registration when the mailpiece is urged by the lifting mechanism to move towards the upper looping belt when the mailpiece is moving into the printing area.

4. The double belt transport system of claim 1, further comprising an upstream pulley and a downstream pulley defining a tangent plane therebetween, wherein the tangent plane is substantially parallel to the registration plane, and wherein the upstream and downstream pulleys push against the upper looping belt to define the straight section of the upper looping belt.

5. The double belt transport system of claim 1, further comprising a deck having an upstream section located adjacent to the intake nip for supporting the mailpiece when the mailpiece moves towards the ingest nip.

6. The double belt transport system of claim 1, further comprising means for driving the upper looping belt and the lower looping belt for reducing shearing on the mailpiece.

7. The double belt transport system of claim 1, further comprising a velocity measurement mechanism operatively connected to at least one of the looping belts so as to match the printing speed of the print head to moving speed of the mailpiece in the printing area.

8. The double belt transport system of claim 1, wherein the print head comprises a plurality of inkjet nozzles for printing.

9. A method of moving a mailpiece from an upstream end towards a downstream end into a printing area, wherein the mailpiece has a surface to be printed by a printer in the printing area having a length, said method comprising the steps of:

providing an upper looping belt having a straight section running the length of the printing area for defining a registration plane for printing; and

providing a lower looping belt having a mailpiece intake section running from the upstream end towards the downstream end, wherein the mailpiece intake section of the lower looping belt and the straight section of the upper looping belt form a wedge-shaped gap resulting in a soft ingest nip so that the tension of the lower belt provides a normal force between the mailpiece and the upper belt in order to provide a friction force to move the mailpiece into the gap towards the printing area so that the mailpiece surface is substantially located on the registration plane.

10. (Original) The method of claim 9, further comprising the step of urging the mailpiece to move towards the straight section of the upper looping belt so as to ensure that the mailpiece surface is located substantially on the registration plane when the mailpiece is moved into the printing area.

11. A printer having an upstream end and a downstream end for printing a mailpiece on an upper surface thereof, said printer comprising:

a print head located above a printing area; and

a double belt transport system for moving the mailpiece from the upstream end into the printing area, wherein the mailpiece has a lower surface opposing the upper surface, and wherein the double belt transport system comprises:

an upper looping belt having a straight section covering the printing area, wherein the straight section defines a registration plane regarding the print head; and

a lower looping belt having a mailpiece intake section running from the upstream end towards the downstream end, wherein the mailpiece intake section and the straight section form a wedge-shaped gap resulting in a soft ingest nip so that the tension of the lower belt provides a normal force between the mailpiece and the upper belt for providing a friction force to move the mailpiece into the printing area for printing.

12. The printer of claim 11, further comprising a lifting mechanism located below the lower surface of the mailpiece for urging the mailpiece to move towards the straight section of the upper looping belt so that the upper surface of the mailpiece is located

substantially in the registration plane when the mailpiece is moving into the printing area.

13. The printer of claim 12, further comprising a shield plate having a reference surface facing the lifting mechanism and located substantially in the registration plane in the printing area so as to allow the upper surface of the mailpiece to press against the reference surface for registration when the mailpiece is urged by the lifting mechanism to move towards the upper looping belt when the mailpiece is moving into the printing area.

14. The printer of claim 11, further comprising an upstream pulley and a downstream pulley defining a tangent plane therebetween, wherein the tangent plane is substantially parallel to the registration plane and wherein the upstream and downstream pulleys push against the upper looping belt to define the straight section of the upper looping belt.

15. The printer of claim 11, further comprising a deck having an upstream section located adjacent to the intake nip for supporting the mailpiece when the mailpiece moves towards the ingest nip.

16. The printer of claim 11, further comprising means for driving the upper looping belt and the lower looping belt for reducing shearing on the mailpiece.

17. The printer of claim 11, further comprising a velocity measurement mechanism operatively connected to at least one of the looping belts so as to match printing speech of the print head to moving speed of the mailpiece in the printing area.

18. The system claimed in claim 1, further including:
a tensioning idler to maintain tension for the lower belt.

19. The method claimed in claim 9, wherein the tension of the lower belt is maintained by a tensioning idler.

20. The printer claimed in claim 11, further comprising:
a tensioning idler to maintain tension for the lower belt.

CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to:

Mail Stop Appeal Brief-Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

on November 12, 2003
Date of Deposit

Esther A. Lapin
Name of Rep.

Esther A. Lapin
Signature

November 12, 2003
Date